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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,986	09/23/2003	Lee Kong Weng	70030735-1	4231

57299 7590 07/03/2006

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EXAMINER	
PAYNE, SHARON E	

ART UNIT	PAPER NUMBER
2875	

DATE MAILED: 07/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/669,986	WENG ET AL.	
	Examiner	Art Unit	
	Sharon E. Payne	2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *0606*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Kyocera (JP 2002232017 A).

Regarding claim 1, Kyocera discloses a standalone ceramic cavity (Fig. 4) comprising a ceramic substrate for mounting a light emitting diode (Fig. 4, bottom portion under LED) in a single cavity (Fig. 4) and *substantially* vertical ceramic sidewalls for minimizing light leakage (Fig. 4, reference number 33), and a metallic coating (reference numbers 32 and 34) on a portion of the ceramic substrate (Fig. 4) and a portion of the ceramic sidewalls for reflecting light in a predetermined direction (Fig. 4).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 2, 8 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kyocera in view of Kosman et al. (U.S. Patent 3,821,590).

Regarding claim 2, Kyocera does not disclose a cavity filled with an optically transparent material. Kosman et al. discloses a cavity filled with an optically transparent material (reference number 4, Fig. 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the optically transparent material of Kosman et al. in the cavity of Kyocera to protect the LEDs while allowing light to transmit through the material. See Fig. 1 of Kosman et al.

Regarding claim 8, Kyocera discloses the steps of forming a single ceramic cavity (Fig. 4) comprising a substrate for mounting a light emitting diode (bottom support of Fig. 4) in a single cavity (Fig. 4) and substantially vertical ceramic sidewalls for reducing light leakage (reference number 33, Fig. 4), coating a portion of the ceramic cavity with a light reflective material (reference number 34, Fig. 4), and positioning a light emitting diode on the substrate (Fig. 4, reference number 35). Kyocera does not disclose the step of depositing an optically transparent material in the cavity to protect the light emitting diode.

Kosman et al. discloses the step of depositing an optically transparent material (reference number 4) in the cavity to protect the light emitting diode (Fig. 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the optically transparent material of Kosman et al. in the process of Kyocera to protect the light emitting diode while letting light pass through. See Fig. 1 of Kosman et al.

Concerning claim 14, Kyocera discloses a single ceramic cavity (Fig. 4) comprising a ceramic substrate (bottom middle of Fig. 4) for mounting a light emitting diode (reference number 35) in the single cavity (Fig. 4) and *substantially* vertical ceramic sidewalls for reducing light leakage (Fig. 4), a metallic coating on a portion of the ceramic substrate (Fig. 4, reference number 34) for reflecting light in a predetermined direction (Fig. 4), a light emitting diode coupled to the substrate (reference number 35, Fig. 4). Kyocera does not disclose an optically transparent coating.

Kosman et al. discloses an optically transparent coating (reference number 4) for protecting the light emitting diode (Fig. 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the optically transparent material of Kosman et al. in the cavity of Kyocera to protect the LEDs while allowing light to transmit through the material. See Fig. 1 of Kosman et al.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kyocera in view of Barlian et al. (U.S. Patent 4,600,977).

Regarding claim 3, Kyocera does not disclose a white cavity being used as a reflective cavity. Barlian et al. discloses that one can use a cavity that is substantially white in color (column 6, lines 23-25) or one with a metallic coating for reflecting the light (column 6, lines 25-30).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to choose the white reflective coating of Barlian over the metallic coating of Barlian or Kyocera for the apparatus of Kyocera depending on the desired illumination effects.

7. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kyocera in view of Zou et al. (U.S. Patent 6,186,649).

Concerning claim 4, Huang does not disclose using silver as a reflective coating. Zou et al. discloses the metallic coating comprising silver (column 6, lines 10-15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the silver coating of Zou et al. in place of the reflective coating of Kyocera to achieve a reflectivity of 80% to 93%. See column 6, lines 6-7, of Zou et al.

Regarding claim 5, Huang does not disclose using gold as a reflective coating. Zou et al. discloses the metallic coating comprising gold (column 6, lines 10-15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the gold coating of Zou et al. in place of the reflective coating of Kyocera to achieve a reflectivity of 80% to 93%. See column 6, lines 6-7, of Zou et al.

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kyocera in view of Gleason (U.S. Patent 1,340,443).

Regarding claim 6, Kyocera does not disclose the metallic coating being formed by plating. Gleason discloses the metallic coating being formed by plating (page 1, lines 110-112).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the plating process of Gleason in the apparatus of Kyocera to enhance the quality of the reflective surface. See page 1, line 110, to page 2, line 1, of Gleason.

9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kyocera in view of Huang (U.S. Patent 6,715,901).

Concerning claim 7, Kyocera does not disclose the cavity being formed to contain a plurality of light emitting diodes. Huang discloses the ceramic cavity being formed to contain a plurality of light emitting diodes (column 4, lines 62-67).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Huang in the apparatus of Kyocera to enable the apparatus to accommodate more LEDs to increase light output per apparatus.

10. Claims 9 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kyocera in view of Kosman et al. as applied to claims 8 and 14 above, and further in view of Barlian et al.

Regarding claim 9, Kyocera does not disclose a cavity that is substantially white in color for reflective purposes. Barlian et al. discloses a cavity that is substantially white in color (column 6, lines 23-25) or a cavity that has a metallic coating (column 6, lines 25-30).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to choose the white cavity of Barlian et al. over the metallic coating of Barlian et al. or Kyocera in the apparatus of Kyocera depending on the desired illumination effects.

Regarding claim 15, Kyocera does not disclose a white cavity as the reflective cavity. Barlian et al. discloses a cavity that is substantially white in color (column 6, lines 23-25) or a cavity that is metallic (column 6, lines 25-30).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to choose the white cavity of Barlian et al. over the metallic cavity of Barlian et al. or Kyocera for the reflective coating of Kyocera depending on the desired illumination effects.

11. Claims 10, 11, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kyocera in view of Kosman et al. as applied to claims 8 and 14 above, and further in view of Zou et al.

Regarding claim 10, Kyocera and Kosman et al. do not disclose the reflective coating comprising silver. Zou et al. discloses the light reflective material comprising silver (column 6, lines 10-15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the silver coating of Zou et al. in place of the reflective coating of Kyocera and Kosman et al. to achieve a reflectivity of 80% to 93%. See column 6, lines 6-7, of Zou et al.

Concerning claim 11, Kyocera and Kosman et al. do not disclose the reflective coating comprising gold. Zou et al. discloses the reflective material comprising gold (column 6, lines 10-15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the gold coating of Zou et al. in place of the reflective coating of Kyocera and Kosman et al. to achieve a reflectivity of 80% to 93%. See column 6, lines 6-7, of Zou et al

Concerning claim 16, Kyocera and Kosman et al. do not disclose using silver as a reflective coating. Zou et al. discloses the metallic coating comprising silver (column 6, lines 10-15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the silver coating of Zou et al. in place of the reflective coating of Kyocera and Kosman et al. to achieve a reflectivity of 80% to 93%. See column 6, lines 6-7, of Zou et al.

Regarding claim 17, Kyocera and Kosman et al. do not disclose using gold as a reflective coating. Zou et al. discloses the metallic coating comprising gold (column 6, lines 10-15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the gold coating of Zou et al. in place of the reflective coating of Kyocera and Kosman et al. to achieve a reflectivity of 80% to 93%. See column 6, lines 6-7, of Zou et al.

12. Claims 12 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kyocera in view of Kosman et al. as applied to claims 8 and 14 above, and further in view of Gleason.

Regarding claim 12, Kyocera and Kosman et al. do not disclose the reflective coating being formed by plating. Gleason discloses the reflective coating being formed by plating (page 1, lines 110-112).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the plating process of Gleason in the process of Kyocera and Kosman et al. to enhance the quality of the reflective surface. See page 1, line 110, to page 2, line 1, of Gleason.

Regarding claim 18, Kyocera and Kosman et al. do not disclose the metallic coating being formed by plating. Gleason discloses the metallic coating being formed by plating (page 1, lines 110-112).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the plating process of Gleason in the apparatus of Kyocera and Kosman et al. to enhance the quality of the reflective surface. See page 1, line 110, to page 2, line 1, of Gleason.

13. Claims 13 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kyocera in view of Kosman et al. as applied to claims 8 and 14 above, and further in view of Huang.

Concerning claim 13, Kyocera and Kosman et al. do not disclose the ceramic cavity being formed to mount a plurality of light emitting diodes. Huang discloses the ceramic cavity being formed to mount a plurality of light emitting diodes (column 4, lines 62-67).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Huang in the apparatus of Kyocera and Kosman to enable the apparatus to contain more LEDs to produce a greater light output.

Concerning claim 19, Kyocera and Kosman et al. do not disclose a plurality of light emitting diodes. Huang discloses a plurality of light emitting diodes coupled to the substrate (column 4, lines 62-67).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Huang in the apparatus of Kyocera and Kosman to produce a greater light output.

Response to Arguments

14. Applicant's arguments filed 16 June 2006 have been fully considered but they are not persuasive.

Applicant argues that Kyocera does not teach a metallic coating on the substrate. To the contrary, according to the machine translation of the application, conductor 32, part of which is on the ceramic substrate 31, is made of a metallic paste, which is a coating. Thus, the elements of claim 1 are met along with the corresponding elements of the other independent claims, and Kyocera does not teach away from anything. Thus, the rejections stand.

Applicant goes on to argue that regarding claims 2, 8 and 14, Kosman teaches away from the vertical sidewalls. This element is taught in Fig. 4 of Kyocera. Just because Kosman teaches a different type of sidewall, it does not mean that Kosman is teaching away from another type of sidewall. Nowhere does Applicant point out where Kosman says not to do something. Furthermore, teaching multiple cavities does not teach away from a single cavity. Just because one reference teaches to do one thing, it does not mean that the reference is teaching away from something else. For this to be true the reference has to be saying that a certain thing should not be used. Kyocera teaches the standalone cavity, and Kosman does not teach away from the combination. Therefore, the rejections stand.

Applicant continues on to argue that claim 3 is allowable over Kyocera in view of Barlian because Barlian does not remedy the deficiencies of Kyocera regarding the coating on the substrate. To the contrary, for the reasons specified above, Kyocera does teach such a coating, and the rejection stands. The same argument applies to the combination of Kyocera and Zou regarding claims 4 and 5.

Regarding Kyocera and Zou, Applicant argues that Zou fails to teach vertical sidewalls. This element is taught by Kyocera in Fig. 4. The motivation to combine the references is stated in the last sentence of the rejection, and the Applicant has not said why this motivation is improper. Thus, the rejection stands.

Concerning the arguments regarding claim 6 and its rejection using Kyocera and Gleason, the arguments advanced for Kyocera and Zou apply equally well here, and the rejecton stands.

The arguments regarding claim 7 are essentially the same as the arguments regarding claims 3-6, and these arguments are not accepted for the reasons delineated above regarding claims 3-6.

The arguments for claims 9 and 15 (the rejections over Kyocera, Kosman and Barlian) are not accepted for the reasons delineated for the rejections of Kyocera in view of Kosman and Kyocera in view of Barlian (claims 2, 3, 8 and 14). Furthermore, just because the cavity of Barlian is plastic, it does not mean that the reference cannot be combined with a ceramic cavity. The Applicant has not shown where in the reference Barlian says not to do something. See the arguments regarding Kyocera and Kosman.

Along the same lines, the arguments regarding claims 10, 11, 16 and 17 (Kyocera in view of Kosman and Zou) are not accepted for the reasons delineated concerning the rejections involving Kyocera in view of Kosman and Kyocera in view of Zou in the preceding paragraphs.

Applicant also argues that claims 12 and 18 are allowable over Kyocera in view of Kosman and Gleason. These arguments are not accepted for the reasons delineated in the arguments above regarding Kyocera in view of Kosman and Kyocera in view of Gleason.

Applicant concludes with the assertion that claims 13 and 19 are allowable over Kyocera in view of Kosman and Huang. See the arguments regarding Kyocera and Kosman concerning the vertical sidewalls. Applicant goes on to assert that Huang does not remedy the deficiencies of Kyocera and that Huang teaches away from vertical sidewalls because it teaches another configuration. The arguments above for claims 1, 2, 8 and 14 apply equally well here.

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharon E. Payne whose telephone number is (571) 272-2379. The examiner can normally be reached on regular business hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

16. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sep

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